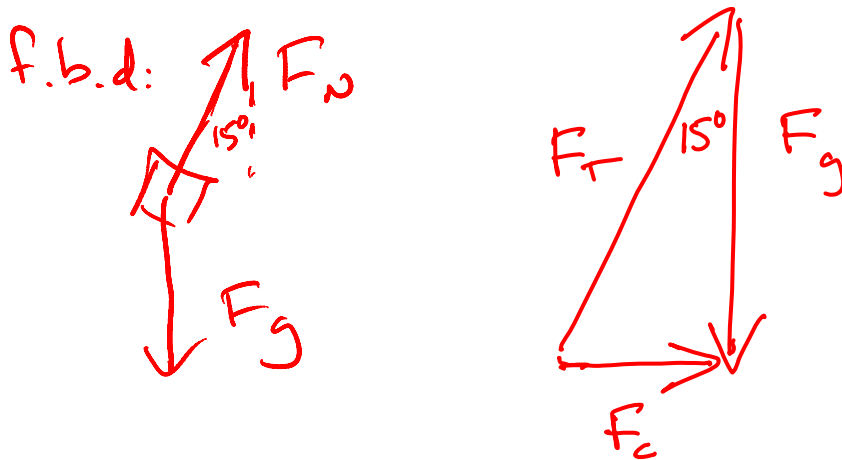


Example #10: The radius of a velodrome curve is 40 m and the banked angle is 15° . If $\mu=0.20$, what is the maximum speed at which a cyclist can take this curve without slipping?



$$\frac{F_c}{F_g} = \tan \theta$$

$$\frac{mv^2}{r} = mg \tan \theta$$

$$v = \sqrt{40(9.8) \tan 15}$$

$$v = 10. \text{ m/s}$$

